DOCUMENT RESUME

ED 232 992 SP 022 851

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TITLE Educational Technology for P[illegible]Service Training Program at Hyogo University of Teacher Education--As a Case Study of Teacher Education in Japan.
PUB DATE Jul 83
NOTE 20p.; Paper presented at the World Assembly of the International Council on Education for Teaching (30th, Washington, DC, July 11-15, 1983).
PUB TYPE Speeches/Conference Papers (150) -- Reports - Descriptive (141)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Audiovisual Aids; Educational Equipment; *Educational Technology; *Education Courses; Elementary School Teachers; Foreign Countries; Higher Education; Preservice Teacher Education; *Schools of Education; Student Teaching; *Teacher Education Programs
IDENTIFIERS *Hyogo University of Teacher Education (Japan)

ABSTRACT

At present, student teaching in most colleges in Japan consists of a 6-week four-credit course of study taken during the last year of training. Many feel this preparation is too short a time for students to be trained adequately, so Japan's Hyogo University of Teacher Education has revised its student teacher program. At Hyogo, students are required to take 14 credits in practice teaching courses throughout their 4 years in the program. One component of the practice teaching credits is a course in educational technology which trains students in the fundamental theory and technique of audiovisual technology and educational information processing. The university's Center for School Education Research provides many opportunities for students to work with the latest equipment and services. Faculty try to maintain close cooperation among all university faculty members, cooperating school teachers, and graduate students for a more effective preservice teaching program. The training program, particularly the educational technology element, is described in detail. (JMK)

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EDUCATIONAL TECHNOLOGY FOR PRE-SERVICE TRAINING PROGRAM AT HYOGO UNIVERSITY OF TEACHER EDUCATION -AS A CASE STUDY ON TEACHER EDUCATION IN JAPAN-

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SP 022 851

TITLE OF PROPOSAL: EDUCATIONAL TECHNOLOGY FOR PRE-SERVICE TRAINING PROGRAMME AT HYOGO UNIVERSITY OF TEACHER EDUCATION
— AS A CASE STUDY ON TEACHER EDUCATION IN JAPAN —

TYPE OF PROPOSAL: RESEARCH AND CASE STUDY

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DESCRIPTION OF TOPIC:

Hyogo University of Teacher Education was established in 1980 as a new-type of national university for teacher education in oder to provide further training to teachers in-service and to secure the training of elementary school teachers.

The university at undergraduate level has a course of elementary teacher education (800 students in total). It aims to train them so that they can obtain full understanding and ability on an overall elementary education including the kindergarten.

Exsisting system of student teaching at teacher training college in Japan requires the period of 6 weeks for 4 credits in a course of study for the teacher profession in the last year of four grades. It is too short duration for us to train them for student teaching. Because, teacher is one of the highest profession with technical knowledge and experience. Our university is trying to improve the pre-service training programme. We particularly emphasize on the necessity for redesign of student teaching system gor better teacher's competence.

We try to cope with the social demand from the contemporary technical innovation for upgrading the quality and ability of teachers.

The requirement for completion of educational technology as the technical training programme in pre-service course are as follows:

1 The student must complete 2 credits course at the second grade.
2 The student must receive necessary instruction and practical training in the field of echnology of both Audio-Visual methods and educational data processing.

The main subjects at these courses are as follows:

A Audio-Visual Technique
 1 Theory and Practice of Audio-Visual Methods
 2 Operation of main Audio-Visual Media
 3 Production and Application of Audio-Visual Materials
 4 Evaluation and Analysis of Educational Media and Materials
B Educational Data Processing
 1 Fundamental Theory of Data Processing
 2 BASIC Language
 3 Foundation of Programming
 4 Manipulation of Micro-Computor

For these purposes, the Center for School Education Research provides many kinds of the newest equipments and services in new-established building of about 2,500 square yards.

We should keep the close cooperation of all members among university faculty , graduate students and attached school teachers for completion of more effective pre-service training programme.

EDUCATIONAL TECHNOLOGY FOR PRE-SERVICE TRAINING PROGRAM

AT HYOGO UNIVERSITY OF TEACHER EDUCATION

-AS A CASE STUDY ON TEACHER EDUCATION IN JAPAN-

Hyogo University of Teacher Education was established in 1980 as a new type of National University for teacher education by the Ministry of Education in Japan. It was designed to provide in-service training to teachers.

The University established an undergraduate program for elementary teacher education in 1983. The present enrollment of undergraduate students is 800. It aims to train them so that they can gain a full understanding and ability in elementary education including kindergarten.

Hyogo University of Teacher Education provides both pre-service and in-service training courses for those who will be and are professionally-minded educators, helping them develop a sense of mission and human love. The undergraduate program is designed to raise the quality and competence of teachers by having them engage in educational research.

As mentioned above, we started Department of School Education as the school for pre-service teacher education. It aims to train elementary school teachers to a high level of ability in teaching all subject matter areas, supported by warm humanity and deep knowledge of their speciality.

Student teaching in most teacher training colleges in Japan consists of a period of only six weeks or four credits during the last year of the students' course of study. It usually offers too short a time for us to train students adequately, since teaching, as one of the highest professions, requiring a high degree of technical knowledge and experience. Our University is trying to improve the pre-service training program. And particularly emphasizes the need to redesign the student teaching system to improve teachers' competence.

In Practice Teaching, students should acquire a high level of competence through practice with children in schools. We have tried to improve upon the traditional system of student teaching going beyond 4 credits for six weeks. Because of educational importance of student teaching for teacher training, we believe it is one of the most important areas in the undergraduate curriculum. We require students to take the courses of Practice Teaching for 14 credits spread over their whole program.

I. Purposes of Practical Teaching

Teacher is one of the highest professions. Students in the elementary school are expected to develop the following capacities and abilities:

1. The student teacher should be provided with actual teaching experiences, reinforced practice with serious self-reflection regarding the students' mission as a teacher.
2. The student teacher should apply and modify the knowledge and technique gained through lectures and seminars in the teaching practice.
3. The student teacher should have an understanding of the nature of child development and individual differences, applying this in concrete situations through teaching practice; the student should make a constant effort to improve herself and her attitude as a teacher.
4. The student teacher should develop a realistic understanding of the purposes and contents of schooling through practice teaching.
5. The student teacher should engage in research related to problems that become evident in her teaching practice, and improve her instructional technique through inquiry.

II. Curriculum of Practical Teaching

We have tried new ways to systematize the basic elements of practice of elementary education within an integrated system of instruction in our school. The student teachers are provided with practicum experiences to systematically improve their abilities as an elementary teacher during four years of school. (Table 1)

(Table 1) Curriculum of Practice Teaching

Subject	Credit	Grade	Place
1. Foundation of Practice Teaching (1)	1	1	University School
2. Foundation of Practice Teaching (2)	1	2	Center for School Education Research
3. General Teaching Practice (1)	4	3	University School
4. General Teaching Practice (2)	2	4	Local Cooperative School
5. Special Teaching Practice	2	3-4	University School
6. Practice in Educational Technology	2	2	Center for School Education Research
7. Teaching Practice in Specific Subject Matter	2	4	University School
8. Student Teaching in Secondary School	1	4	University School

Practicum experiences begin with observation at the University School (Kindergarten through Junior High School). Student teachers learn and practice teaching technique through observation and participation experiences.

After that, the student enrolls in teaching practice at University School along with courses in classroom management and extra-cruuiculum activities and courses of educational technology. Finally, the student takes special training course for each subject matter area that student will teach. Student Teaching in Secondary School is provided for students who wish to get the certificate of secondary teachers.

The detail of each course in the curriculum of Practice Teaching is as follows:

1. Foundation of Practice Teaching (1) (1 credit 1st grade)
   Students gain an understanding of teaching practice in kindergarten, elementary school, and secondary school, and develop their readiness to be elementary teachers.
2. Foundation of Practice Teaching (2) (2 credits 2nd grade)
   Students learn to understand the purpose, content and method of school guidance and life guidance in elementary education through teaching practice. They observe educational practice and learn the foundations of teaching technique.
3. Teaching Practice in General (1) (4 credits 3rd grade)
   Students take student teaching in laboratory school related to general education. They develop their capacity as teachers as well as their fundamental teaching technique.
4. Teaching Practice in General (2) (2 credits 4th grade)
   Students take student teaching practice at local cooperating school under real-life conditions within the local community. They use the experience to enrich their teaching method and technique.

5. Special Teaching Practice (2 credits 3-4th grade)

Students study classroom management and extra-curricular activity, and learn to understand the nature of children and their life.

6. Practice of Educational Technology (2 credits 2nd grade)

Students acquire the theory and technique on educational technology, and develop the ability to use educational information-processing.

7. Teaching Practice in Subject Matter (2 credits 4th grade)

Students take teaching practice related to specific content, methods and techniques of teaching concerning each subject matter area. They take special courses and develop their professional teaching ability.

8. Student Teaching in Secondary School (1 credit 4th grade)

Students practice teach at the University School to meet requirements for the secondary teaching certificate.

III. Curriculum of the practice of Educational Technology

All students of the second grade (200) are required to take Practice of Educational Technology for 2 credits. This course is taught as a seminar related to technical practice throughout two semesters.

Practice of Educational Technology trains students in the fundamental theory and technique of audio-visual technology and educational information processing. The program of this course is as follows:

A. Fundamental Technique of Audio-Visual Instruction

1. Principles of Audio-Visual Instruction

Analysis of Teaching-Learning Process

Effects and Limits of Audio-Visual Media in Teaching

Development of Educational Materials

2. Theory and Technology of Screen Education

   16 mm motion picture 8 mm motion picture

   Slide projection Overhead projector

   Qualities Operation Production Evaluation

3. Educational Use of Video Program

   Videotape Recorder TV Camera Monitor TV

   Qualities Operation Production Evaluation Editing

4. Fundamental Technology of Teaching Analysis

   Teaching Analysis

   Dealing with Data for Teaching Evaluation

B. Fundamental Technique of Educational Information Processing

1. Theory of Information Processing

   Operation of Micro Computer

2. Mastering Basic Language

   Training in Basic Language

   Foundation of Programming

3. Dealing with Data

   Data Classification

   Reference

   Computer Graphics

We have 4 classes in this course enrolling 50 students and using 2 teaching assistants. The course meets during twenty of 150 minutes each over two semesters.

IV. Instructional System of Training on Educational Technology

We need to redesign the organization of instruction and improve our facilities to provide efficient instruction through educational technology.

The Center for School Education Research is responsible for instruction in the entire program for Practice Teaching. The staff members responsible for training in educational technology consist of 2 instructors, 4 assistants, and 4 graduate students.

The instructors, who belong to the Center, develop programs relating to educational technology, provide textbooks and other instructional materials, offer lectures on fundamental theory and practice in operating many kinds of equipment and facilities, and evaluate students' achievements in regard to their practical ~~writing~~ training.

The assistants help the instructors develop the instructional programs, develop the textbook and educational materials, and manage the equipment and facilities at the Center. During practical training, assistants give instruction and advice to students on the operation and use of audio-visual equipment and microcomputers.

In addition, graduate students serve as teaching assistants in our undergraduate instructional program. This use of teaching assistants is one of the most distinctive features in our school, because almost ninety percent of our graduate students are active teachers from elementary and secondary schools throughout the country. They have a variety of teaching experiences in their background. In addition, this experience as a teaching assistant at the Center should prove useful to them as preparation for teacher training. The use of graduate teaching assistants being at the onset of Practice Teaching.

V. Equipment and Facilities for Practical Training on Educational Technology

We completed the building that houses the Center for School Education Research in April, 1983. Presently we provide equipment and facilities for practical training on educational technology as follows:

A.	Audio-Visual Equipment	
	1. Video System for Program Production VTR, Portable VTR, Video Camera, Monitor TV	4 sets
	2. Portable Video System for Recording of Teaching Portable VTR, Video Camera, Monitor TV	3 sets
	3. Video Tape Reproduction System for Recording of Teaching Beter--Beter, Umatic--Umatic, VHS--VHS, Beter-Umatic, Beter-VHS, VHS-VHS	1 set
	4. Video Tape Reproduction System Betermatic Electronic Editor, VTR	1 set
	5. Audio Tape Editing System	1 set
	6. 16mm Motion Picture Projector	7 sets
	7. 8mm Motion Picture Projector	1 set
	8. 8mm Motion Picture Camera	1 set
	9. Overhead Projector	7 sets
	10. Transparency Printer	2 sets
	11. Camera for slide film production	1 set
B.	Micro Computer System	
	1. Micro Computer (FM-7) for Educational Information Processing	45 sets
	2. Mini Computer (Fujitsu U-1400) for Micro Computer Control Device	1 set
	3. Printer (PF 6733B2)	1 set
	4. Optical Mark Sheet Reader (F 6351E)	1 set
	5. Micro Computer (FM-11) for Instructor	2 sets
	6. Micro Computer (Hitachi Level 3) for Teaching Analysis	8 sets

7. Disk Top Computer (HP-9845C) for Data Analysis of Psychological Experiment — 1 set

C. Others

Others	
1. Poligraph for Psychological Experiment	1 set
2. Bookbinding Machine	1 set
3. Copy Machine	1 set

The budget for fiscal 1982 for the Center for School Education Research was as follows:

A. Cost for Building and Facilities of the Center

Building	¥ 194,000,000	($808,340)
Electric Services	¥ 45,250,000	($188,540)
Draining Works	¥ 55,500,000	($231,250)
Total	¥ 294,750,000	($1,228,130)

B. Cost for Equipments and Facilities to Educational Technology

Audio-Visual Equipment	¥ 5,800,000	($24,170)
Micro Computer System	¥ 31,000,000	($129,170)
Exclusive Desks for Micro Computer	¥ 1,400,000	($5,830)
Total	¥ 38,200,000	($159,170)

VI. The Role of the Center for School Education Research

The Center for School Education Research (CSER) serves the entire University. It promotes research and development acitivites and instruction in the theory and practice of school education, and provides an exchange of educational information resources.

Within this Center, we have three sections: Practical Teaching, Educational Technology and Information Exchange. The section of Practical Teaching serves the following functions:

1. Investigation, research, development and collection of data and materials on Practice Teaching.
2. Design, management, and coordination of instructional programs in Practice Teaching.
3. Integrated and continuing instruction and evaluation on Student Teaching.
4. Investigation, research and development on what Student Teaching should be.
5. Efficient instruction in Practice Teaching at the University School and in local cooperating schools.

VII. Problems of Practice Teaching

The curriculum of Practice Teaching is organized into an integrated instructional system as a new form of teacher education in our school. Specifically, it tries to integrate the pre-service training of undergraduate students with the in-service training of graduate sutdents.

In order to develop training in Educational Technology, we need to solve many problems, including the following:

1. We must develop cooperative work among the instructors of the Center, the faculty members of University, the teachers in the Unviersity School, and the graduate teaching assistants.

2. We must complete and provide more equipment and facilities in the Center to improve training on Educational Technology. We need a larger budget for this.

3. Presently, we have only three full-time members of the Center (one professor and two assistant professors). We must provide more full-time assistants and technical personnel to provide training in Educational Technology.

We have included in our budget funds to invite three Visiting Research Scholars as staff of the Center each year. We are presently inviting a specialist

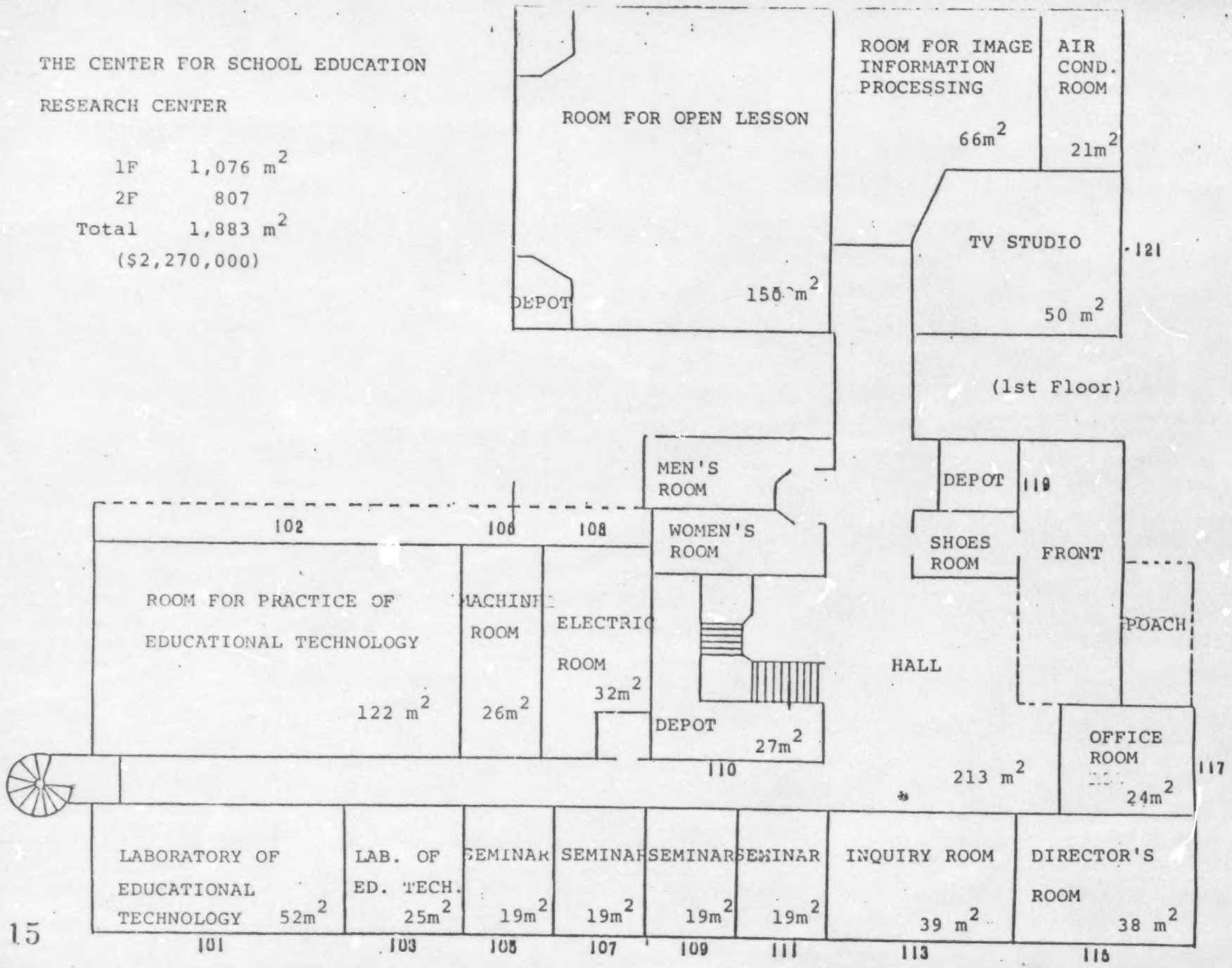
in the field of Technology from abroad as one of Visiting Research Scholars in our Research Project on Improvement of Teachers' Competence.

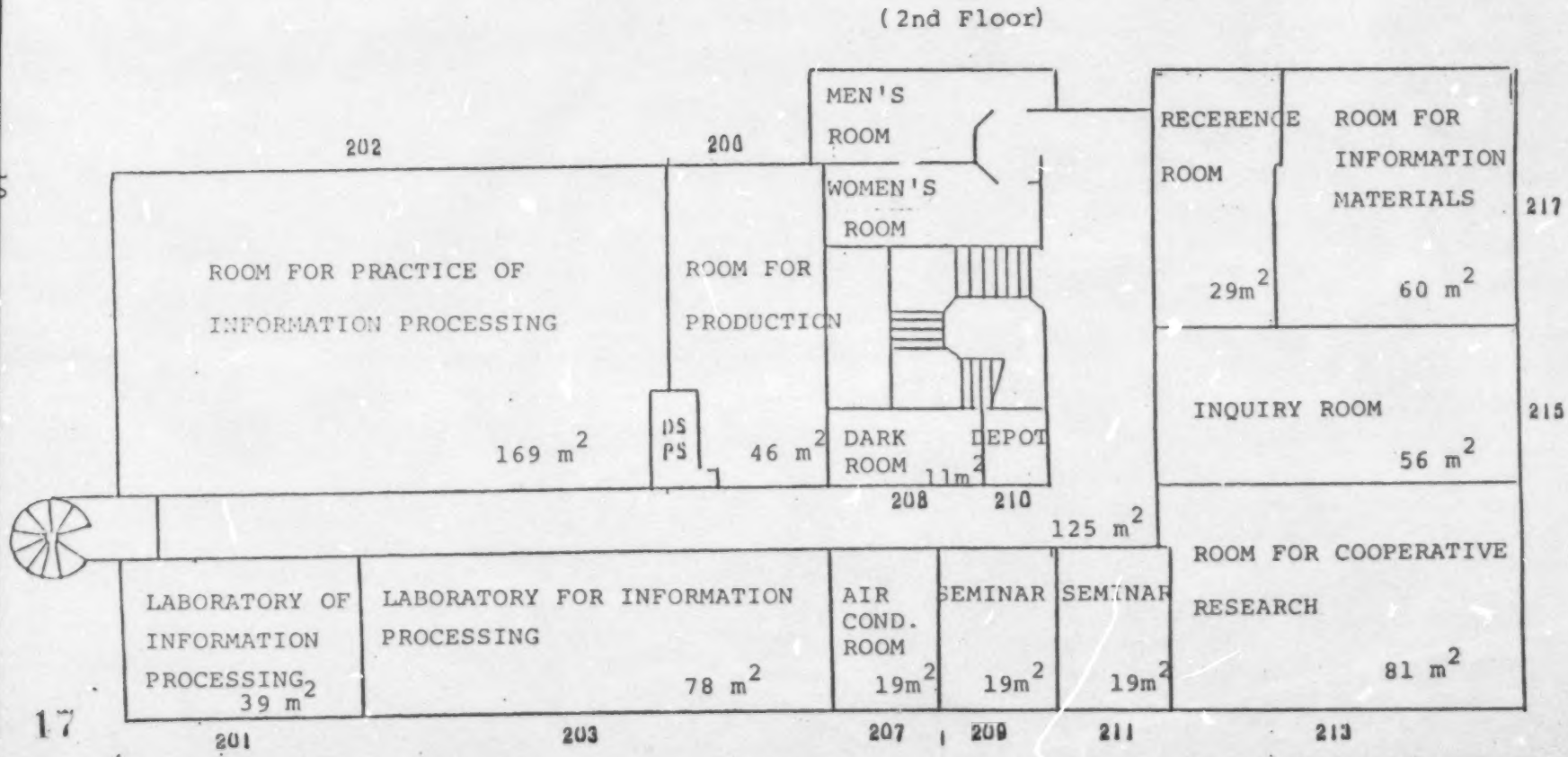
I thank you for your kind attention.

THE CENTER FOR SCHOOL EDUCATION

RESEARCH CENTER

1F	1,076 m^2
2F	807
Total	1,883 m^2
($2,270,000)	




(2nd Floor)
MEN'S ROOM
WOMEN'S ROOM
202
200
ROOM FOR PRACTICE OF INFORMATION PROCESSING
169 m2
ROOM FOR PRODUCTION
DS
PS
46 m2
DARK ROOM
11m2
DEPOT
208
210
125 m2
RECERENCE ROOM
29m2
ROOM FOR INFORMATION MATERIALS
60 m2
217
INQUIRY ROOM
56 m2
215
ROOM FOR COOPERATIVE RESEARCH
81 m2
LABORATORY OF INFORMATION PROCESSING
39 m2
LABORATORY FOR INFORMATION PROCESSING
78 m2
AIR COND. ROOM
19m2
SEMINAR
19m2
SEMINAR
19m2
201
203
207
209
211
213

THE PERCENTAGE OF LOCAL PUBLIC SCHOOLS
FURNISHED WITH TYPICAL INSTRUCTIONAL AIDS
(in 1980)

Type of Aids	Elementary School	Lower Secondary School	Upper Secondary School
Over-Head Projector	99.5%	99.1%	98.9%
T.V. Set (color)	98.1	94.3	90.6
Tape Recorder (Cassette)	97.4	98.0	97.1
Slide Projector	97.1	98.1	98.8
8mm Sound-Motion Picture Projector	77.1	78.7	84.7
16mm Sound-Motion Picture Projector	55.7	57.6	96.9
Tape Recorder (open reel)	54.4	61.4	83.3
T.V. Set (black and white)	43.3	40.6	62.7

MAJOR ITEMS OF AUDIOVISUAL EQUIPMENT
MAINTAINED IN ELEMENTARY SCHOOLS (in May, 1980)

Type of Equipment	Percentage of Schools having the Equipment	Average Units per School
Audiotape Recorders	98.2%	7.8
T.V. Receivers (B & W, Color)	98.1	11.1
Radio Receivers (with or without build-in tape recorders)	96.9	7.8
Slide Projector	96.0	2.8
Record Players (with or without radios)	94.5	3.7
Over-Head Projector	93.3	8.7
8mm Picture Projector	72.5	1.3
Videotape Recorders (open reel, cassette, cartridge)	63.9	2.3
16mm Picture Projector	56.3	1.2

THE STATE OF USE OF MICRO COMPUTER
FOR SCHOOL EDUCATION IN JAPAN
(as of January, 1983)

	Senior High S.			Junior High S.		Elementary S.	
	Public	Private	Total	Public	Private	Public	Private
Total No. of School	3,954	1,242	5,196	---	---	---	---
No. of School possesed M.C.	1,970	400	2,370	94	100	27	9
Rate of Diffusion	49.8%	32.2%	45.6%	0.9%	18.2%	0.1%	5.4%
				0.6%			
Average No. of M.C. per a School	3.9	4.8	4.1	1.3	3.1	1.1	2.4
	1 --- 41.7%						
	2 --- 15.7%						
	to 3 --- 70.0%						
Aims of Use*	for C. M. I.					for C.A.I.	
	63.4%			70.1%		69.4%	

*Aims of Use

1. C.M.I.
   (1) Use for information processing about school record and health
   (2) Use for school management
2. C.A.I.
   Use for helping comprehension on learning of students
3. Other aim
   Training for use of M.C. in club activity